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SITE NAME	MATTHIESEN & HEGELER (CARUS CHEMICAL)
DOC ID #	163451
DOCUMENT VARIATION	<u>X</u> COLOR OR <u>X</u> RESOLUTION
PRP	RMD - MATTHIESEN & HEGELER
PHASE	SAS
OPERABLE UNITS	
PHASE (AR DOCUMENTS ONLY)	____ Remedial ____ Removal ____ Deletion Docket ____ ____ Original ____ Update # ____ Volume ____ of ____
COMMENT(S) SITE MAPS ; SITE COLORED PHOTOGRAPHS ALSO INCLUDES OVERSIZED MAPS (PARTIALLY SCANNED)	

163451 C3

L0998160003-LaSalle Co. ¹⁰
Carus Chemical Company
ILD 005477666
SF/HRS
Volume 1 of 2



CERCLA

Screening Site Inspection Report



**Illinois Environmental
Protection Agency**
P.O. Box 19276
Springfield, IL 62794-9276

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1. INTRODUCTION

On September 24, 1991, the Illinois Environmental Protection Agency's (IEPA) Pre-Remedial Program was tasked by the United States Environmental Protection Agency (U.S.EPA) to conduct a CERCLA Screening Site Inspection of the Carus Chemical Company site located in LaSalle, Illinois.

The site was initially placed on CERCLIS (Comprehensive Environmental Response, Compensation and Liability Act Information System) in August of 1990 as a result of a request for discovery action initiated by the Illinois Environmental Protection Agency. This action was taken as a result of previous waste disposal practices at the facility and the many years of operation at the same location.

The facility received its initial CERCLA evaluation in the form of a Preliminary Assessment (PA) report that was completed by Mr. Robert Casper of the Illinois EPA in June of 1991. In November, 1991, the Illinois EPA's Pre-Remedial Program prepared and submitted to the Region V offices of the U.S. Environmental Protection Agency a Screening Site Inspection work plan for the Carus Chemical Company facility. The sampling portion of the Screening Site Inspection was conducted on November 20 and 21, 1991 when the sampling team collected a total of four groundwater, five soil and eight sediment samples.

The purposes of a Screening Site Inspection have been stated by U.S.EPA in a directive outlining Pre-Remedial program strategies. The directive states:

All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS [Hazard Ranking System] score, 2) establish priorities among sites most likely to qualify for the NPL [National Priorities List], and 3) identify the most critical data requirements for the Listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as NFRAP [no further remedial action planned], or carried forward as an NPL listing candidate. A Listing SI will not automatically be done on these site, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA [Resource Conservation and Recovery Act]... Sites that are designated NFRAP or deferred to other statutes are not candidates for a Listing SI.

The Listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred by another authority will receive a Listing SI (U.S.EPA 1988).

The Region V offices of the U.S. EPA have also requested that the Illinois Environmental Protection Agency identify sites during the Screening Site Inspection that may require removal action to remediate an immediate human health and/or environmental threat.

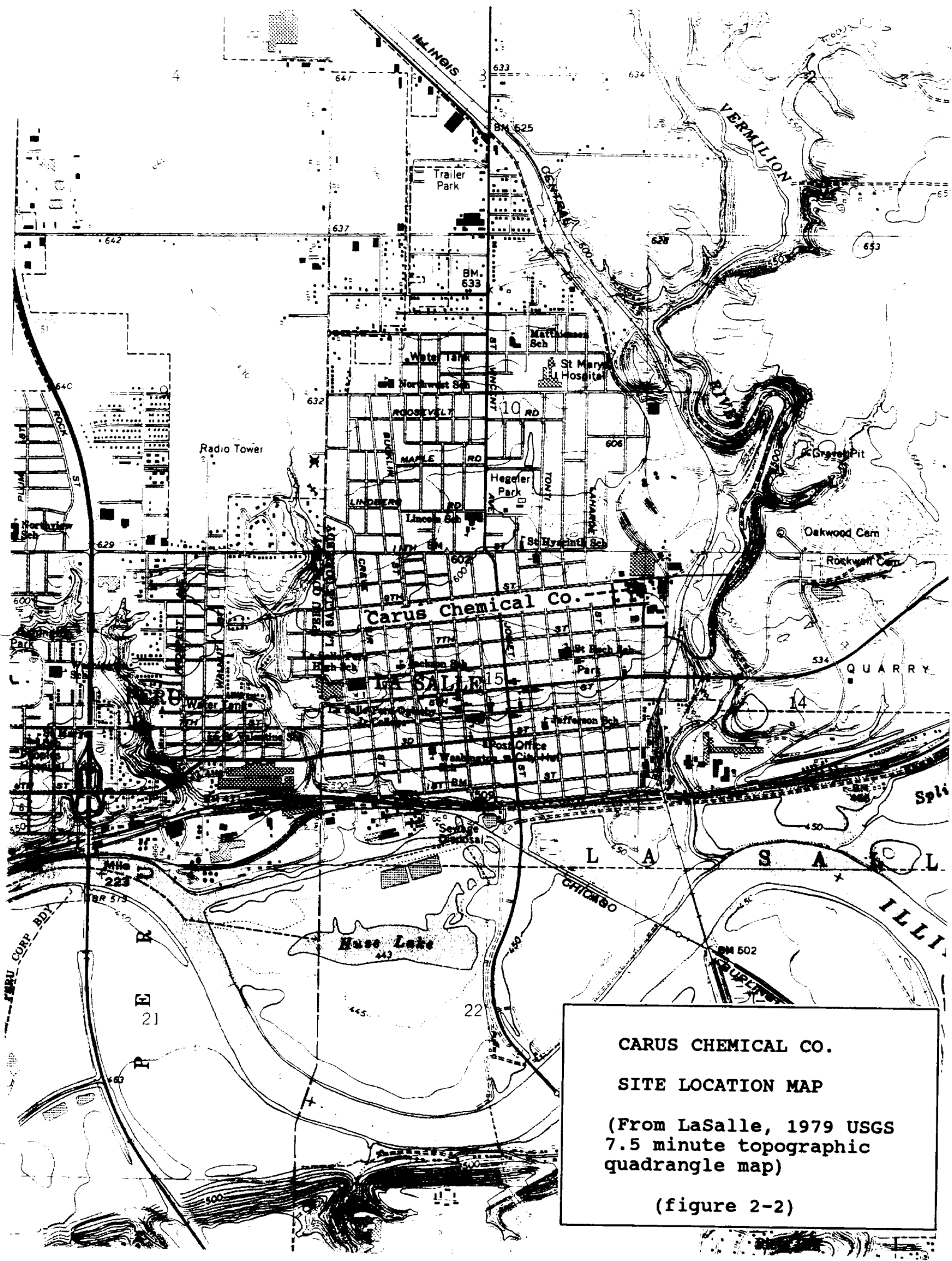
2. SITE BACKGROUND

2.1 INTRODUCTION

This section includes information obtained over the course of the formal CERCLA Screening Site Inspection investigation and previous Illinois Environmental Protection Agency activities involving this site.

2.2 SITE DESCRIPTION

The Carus Chemical Company site currently occupies approximately 33 acres along the eastern edge of LaSalle, Illinois (see figures 2-1 and 2-2). The site is an active facility located at 1500 Eighth Street, LaSalle, Illinois. The site is legally described as being located in the East Half of the Northwest Quarter of Section 14, Township 33 North, Range 1 East of the Third Principal Meridian in LaSalle County, Illinois. The site is bordered by LaSalle Rolling Mills and Zinco on the north, the Little Vermillion River on the east, Sterling Street on the west and Seventh Street on the south. A 4-mile radius map of the area surrounding the Carus Chemical Company site and a fifteen mile surface drainage map are provided in Appendix A and appendix B of this report.





CARUS CHEMICAL CO.

AERIAL PHOTOGRAPH

Scale: 1 inch equals 200 feet

From: Illinois Department of Transportation
aerial photo taken in March, 1988.

(figure 2-3)

2.3 SITE HISTORY

Carus Chemical Company began operations at the present location in 1915 and is still in business. Prior to this the land was agricultural; however, the site is located adjacent to an area that has been in use prior to 1915 and up to the present as a zinc processing facility. Originally, potassium permanganate was the only compound manufactured at Carus Chemical Company. Over the years a number of other substances were added to the product line. These included a developer, manganese dioxide, sodium permanganate, PPC 2,3, pyridinedicarboxylic acid, and chlorides, nitrates and carbonates of cesium. Raw materials that are used in the manufacturing processes include copper sulfate; sulfuric, nitric and hydrochloric acids; sodium hydroxide; cesium bearing ore; manganese dioxide; ethylene glycol; sodium carbonate; sodium bicarbonate; aluminum oxide and flocculation polymers.

Currently raw materials used at Carus Chemical Company are received in bulk quantities and are stored indoors. Finished product is stored in warehouses protected from the weather. The facility obtains all of its water from the city of LaSalle and the sanitary and wastewater streams are handled separately. Sanitary wastes from the office, laboratory, locker facilities and specialty products process water is disposed of by the city of LaSalle sewer system. Approximately 50,000 to 60,000 gallons per day are discharged into the LaSalle Sanitary Sewer system. Storm water run-off

is collected in the Emergency Storage Area, which is of sufficient volume to provide storage for a 5 inch rain (10 year, 24 hour storm event).

Wastewaters from the manufacture of potassium permanganate are eventually discharged into the Little Vermilion River. This wastewater is generated from periodic boiler blowdowns, compressor coolings, rainfall run-off, pumping of the accumulated stormwater and equipment wash water. Wastewater quantity generated is typically 950,000 gallons per day. Before any wastewater enters the Little Vermilion River it first passes through a monitoring building where the pH and absorbance are checked to ensure that the water does not contain excess turbidity or permanganate.

From the monitoring station the water is discharged into the north end of the south settling and treatment pond, which is approximately four acres in size. The water travels to the southeast portion of this pond and enters an overflow box where it then travels via a pipe into the Little Vermilion River.

Solid wastes from the manufacturing activities are disposed of offsite. They are transported in large capacity dumpsters to a specialized Carus owned landfill which is used only for Carus products. This has been the practice since the early 1970's when wastes were first disposed of at Carus No. 1, located approximately 3 miles west of Ottawa, Illinois. This site was used until 1986 and was replaced by Carus No. 2, located approximately 1 mile east of Carus No. 1.

According to Illinois Environmental Protection Agency records an incident did occurred on April 1, 1984 when a pump packing failure allowed potassium permanganate mother liquor to enter the Little Vermilion River. This was the result of the failure of a telephone alarm on the sewer monitor to notify plant personnel that water passing through the monitoring station was above acceptable limits. The facility has NPDES Permit number IL0002623 which allows the discharge of process waste water from the Carox manufacturing area and storm water into the Little Vermilion River. All sanitary wastes and process wastes from the Specialty Products group are discharged to the City of LaSalle sewer system.

2.4 APPLICABILITY OF OTHER STATUTES

The Carus Chemical Company site and its offsite waste disposal operation is not regulated under RCRA (Resource Conservation and Recovery Act) since the materials that are used and generated are not classified as hazardous. The Illinois Environmental Protection Agency has issued a number of permits to the company concerning the development and operation of the disposal area and for specific wastes including pollucite ore waste, pollucite ore cesium process wastes, cesium manganese dioxide waste, pretreatment wastes and manganese dioxide process waste. The company also has been issued permits by the IEPA Division of Water for the operation of the south treatment pond, sewer connections to the city of LaSalle and NPDES water permit for the discharge

of water from the south settling and treatment pond into the Little Vermillion river. The company also has a General Wastewater Discharge Permit issued by the city of LaSalle and a Radioactive Material Licence issued by the Department of Nuclear Safety of the State of Illinois.



SITE LOCATION
(figure 2-1)

3. SITE INSPECTION ACTIVITIES AND ANALYTICAL RESULTS

3.1 INTRODUCTION

This section outlines procedures utilized and observations made during the CERCLA Screening Site Inspection conducted at the Carus Chemical Company facility. Specific portions of this section contain information pertaining to the site representative interview, reconnaissance inspection and field sampling procedures. Also included in this section is information about the soil/sediment and groundwater samples that were collected during the Screening Site Inspection. This is followed by a description of the analytical results and a table indicating the Key Samples and their contaminants. The Screening Site Inspection for the Carus Chemical Company facility was conducted in accordance with the site inspection work plan which was developed and submitted to the U.S. EPA Region V offices prior to the initiation of field activities. The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for Carus Chemical Company is located in Appendix C of this report.

3.2 RECONNAISSANCE INSPECTION

On October 30, 1991, Mr. Robert Casper and Mr. Greg Dunn of the Illinois Environmental Protection Agency conducted the initial CERCLA Screening Site Inspection reconnaissance inspection of the Carus Chemical Company. The reconnaissance included a visual inspection of the facility

to delineate the extent of their activities, identify potential sampling locations and identify appropriate health and safety concerns. Monitor well location maps were checked and the locations of the monitor wells were identified and noted on a site map. During the reconnaissance visit, it was determined that Level D inspection attire could be worn during the sampling activities unless air monitoring equipment detected any concentrations over background.

The reconnaissance confirmed the fact that the Carus Chemical Company facility is located at 1500 Eighth Street, LaSalle, Illinois. The author met with the following Carus representatives: Horst Adolf, Director of Regulatory Affairs; David W. Covey, Director of Plant Support Services; and James R. Miller P.E., Senior Project Engineer. During the meeting the objectives of the inspection were discussed and questions concerning the inspection were answered. After the meeting the author, Greg Dunn, James Miller and David Covey visually inspected the facility. The current operations at the site were explained and observations of potential sampling locations were noted on a map. The topography of the site is varied. The portion of the site used for manufacturing is flat and consists of approximately 13 acres. The eastern portion contains approximately 20 acres and drops sharply toward the Little Vermilion River, which forms the sites' eastern boundary. Surrounding land use includes Zinco and LaSalle Rolling Mills to the north, with residential areas of LaSalle bordering the south and west sides of the site.

3.3 SITE REPRESENTATIVE INTERVIEW

The site representative interview was conducted on November 20, 1991 between Mr. Robert Casper of the IEPA and Mr. Horst Adolf, Director of Regulatory Affairs for Carus Chemical Company. The purpose of the meeting was to gather additional information concerning the site history and past operations, explain the CERCLA Pre-remedial process, and to designate the proposed sampling locations of the upcoming CERCLA Screening Site Inspection. Others present at the conference were Greg Dunn, Timothy Murphy and Kim Nika, all with the Illinois Environmental Protection Agency, and Carus Chemical Company representatives James Miller, Roger Threde and David Covey. After the formal interview, IEPA personnel began implementing their site screening and sampling activities.

3.4 SOIL/SEDIMENT SAMPLING PROCEDURES

On November 20 and 21, 1991, Illinois Environmental Protection Agency personnel collected five soil and eight sediment samples for the purpose of determining if areas of contamination were present at the Carus Chemical Company facility and surrounding area (see figures 3-1 and 3-2 for sampling locations). The shallow soil/sediment samples were collected with stainless steel spoons and trowels whereas the deeper soil samples were collected with stainless steel

bucket augers. The soil was transferred directly into the sample jars from the sampling device. Before the spoons, trowels or bucket augers were used at the site, each had been decontaminated at the Illinois Environmental Protection Agency's Warehouse.

The soil/sediment sample jars and the groundwater bottles were packaged and sealed in accordance with previously documented Pre-Remedial Program procedures. The IEPA samples were analyzed for the Target Compound List by ARDL Inc. of Mt. Vernon, Illinois. Photographs for the Carus Chemical Company screening site inspection are provided in Appendix E of this report. The following table lists the soil/sediment samples in the chronological order in which they were collected:

Table 3-1

Soil/Sediment Sampling

Soil/Sediment Samples collected on November 20, 1991:

X105

<u>Time</u>	<u>Depth</u>	<u>Location</u>
3:05 pm	0-8"	Near the southeast corner of manufacturing area, 55'6" N of SE corner post and collected along the fence.

X102

3:30 pm	Surface	Drum and filter bag storage area, 37"3" N of old unused acid storage tank.
---------	---------	--

X207

3:50 pm	0-3"	Southern part of Emergency Storage Area, 22'6" N of monitoring station and 45'8" W of chain link fence.
---------	------	---

X101
4:20 pm 0-4" Hegeler Park, 123' N of fence surrounding swimming pool.

Soil/Sediment samples collected on November 21, 1991:

<u>X204</u>	<u>Time</u>	<u>Depth</u>	<u>Location</u>
	9:00am	0-8"	On the west side of the Little Vermilion River, near the outfall pipe of the South Settling and Treatment Pond. 53' S of outfall pipe.

<u>X205</u>	9:30am	0-8"	9' north of overflow pipe in the southeast portion of the South Settling and Treatment Pond.
-------------	--------	------	--

<u>X206</u>	9:55am	0-8"	End of delta at the northern end of the South Settling and Treatment Pond.
-------------	--------	------	--

<u>X203</u>	10:20am	0-8"	West bank of the Little Vermilion near the northern portion of the South Settling and Treatment pond, 55'6" S of drainage pipe.
-------------	---------	------	---

<u>X103</u>	<u>Time</u>	<u>Depth</u>	<u>Location</u>
	11:00am	0-6"	Slag area east of Carus plant, near chain link fence at the northern property boundary. 56' W of fence end post, 76'6" S of fence.

<u>X104</u>	11:25am	0-6"	West bank of the Little Vermilion River 55'5" above the water line. 95' E of the E end post of fence along the northern property line.
-------------	---------	------	--

<u>X202</u>	12:20 pm	0-4"	West bank of the Little Vermilion River below a City of LaSalle sewer outfall, located approximately 800' north of Carus Chemical Company.
-------------	----------	------	--

<u>X201</u>	12:36pm	0-7"	West bank of the Little Vermilion River 1,000' north of Carus Chemical Company, at the point where a small stream fed by discharge from a pipe enters the river.
-------------	---------	------	--

X208

12:55pm 0-8"

East bank of the Little Vermilion River approximately 1,200' north of Carus Chemical Company, upstream from the point where a stream from a quarry enters the river.

Standard Illinois Environmental Protection Agency decontamination procedures were followed prior to the collection of all samples. The procedures included the scrubbing of all equipment (bailers, spoons, pans, etc.) with a non-foaming Trisodium Phosphate solution, rinsing with hot tap water, rinsing with acetone, rinsing with hot tap water again and final rinsed with distilled water. All equipment is air dried, then wrapped and stored in heavy duty aluminum foil for transport to the field. Field decontamination procedures include all of the above except the hot tap water rinse.

3.5 GROUNDWATER SAMPLING PROCEDURES

Four monitor well samples were collected on November 20, 1991 by Illinois EPA personnel. The numbering system used by Carus Chemical Company was also utilized by the IEPA to prevent confusion. See figures 3-1 and 3-2 for locations. Monitor wells G101, G103 and G106 were purged of five well volumes, with temperature, pH and specific conductivity readings taken prior to purging, during purging and prior to sampling. Well G112 is the background well and is located at the LaSalle Electrical Utilities NPL site which is approximately 1.2 miles north-northwest of Carus Chemical

Company. This well was purged earlier in the day by IEPA personnel and was sampled using the bailer that is dedicated to this well. After purging each well the water was transferred directly to the appropriate sampling jars provided by the Illinois Environmental Protection Agency's Contract Lab Program. None of the samples were filtered. Preservatives were added to the appropriate inorganic bottles after each was filled. Samples taken from the monitor wells were split with Mr. James Miller of Carus Chemical Company. No private wells were sampled. The following table lists the groundwater samples in the chronological order in which they were collected:

Table 3-2

Groundwater Sampling

Groundwater Samples collected on November 20, 1991:

G101

<u>Time</u>	<u>Depth</u>	<u>Location</u>
10:15am	24.5'	Along the western side of the Emergency Storage Area.

G103

11:15	23.5'	Along the eastern side of the Emergency Storage Area.
-------	-------	---

G106

12:07pm	32.0'	Southeastern area of the Emergency Storage Area.
---------	-------	--

G112

2:15pm	12.5'	Southeast corner of the LaSalle Electrical Utilities Site, located approximately 1.2 miles north-northwest of Carus Chemical Company.
--------	-------	---

Standard Illinois Environmental Protection Agency decontamination procedures were followed prior to the collection of all samples. The procedures included the scrubbing of all equipment (bailers, spoons, pans, etc.) with a non-foaming Trisodium Phosphate solution, rinsing with hot tap water, rinsing with acetone, rinsing with hot tap water again and final rinsed with distilled water. All equipment is air dried, then wrapped and stored in heavy duty aluminum foil for transport to the field. Field decontamination procedures include all of the above except the hot tap water rinse.

3.6 SURFACE WATER SAMPLING

No surface water samples were collected during the November 20 and 21, 1991 Screening Site Inspection of the Carus Chemical Company facility.

3.7 ANALYTICAL RESULTS

This section includes a summary of the analytical results of samples collected during the Screening Site Inspection conducted at the Carus Chemical Company facility in LaSalle, Illinois.

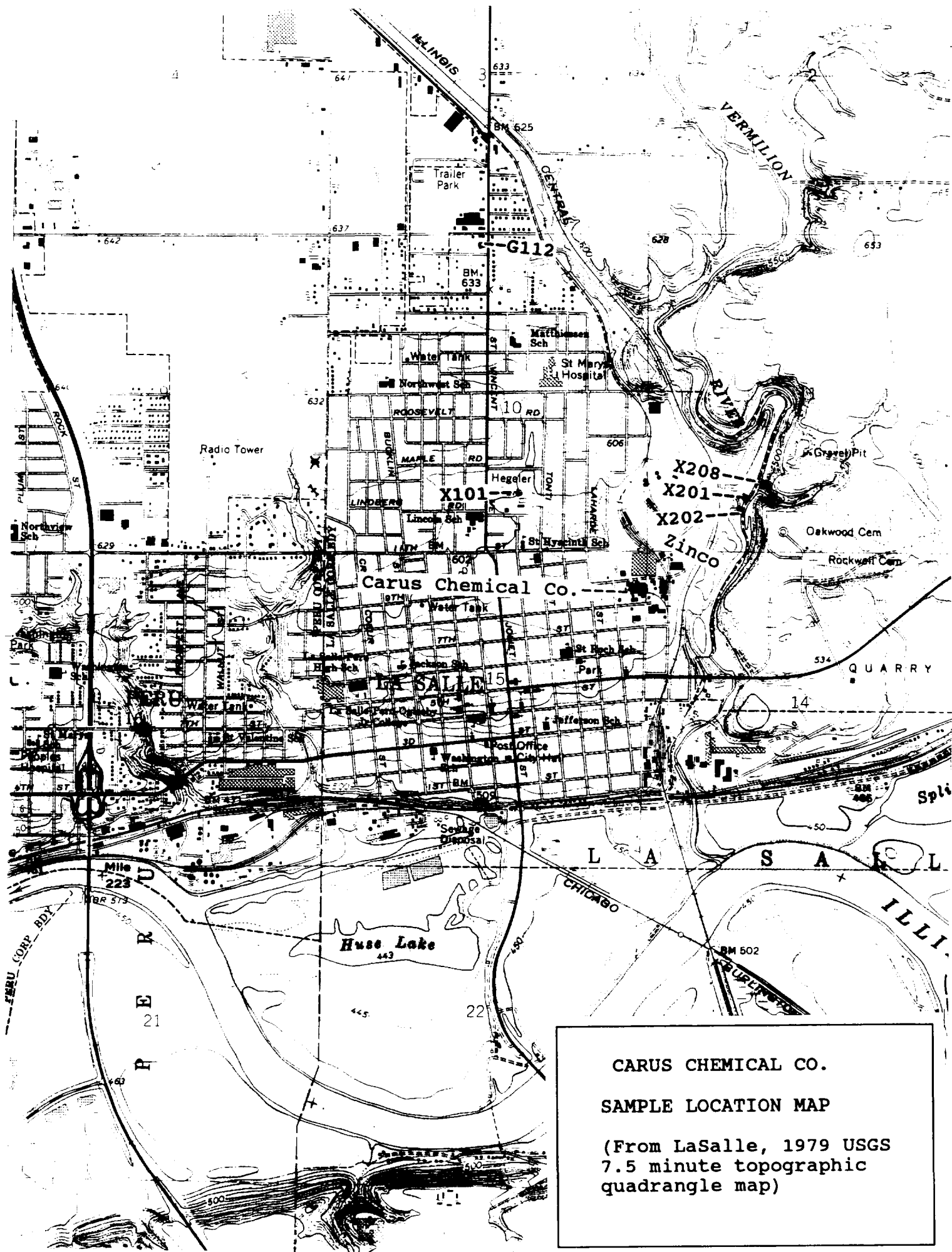
The field activities portion of the CERCLA Screening

Site Inspection included the collection of four groundwater, five soil and eight sediment samples by the Illinois Environmental Protection Agency inspection team. The seventeen were collected to determine if any U.S. EPA Target Compound List compounds were present at the site or at potential receptors of concern. The Target Compounds Listing is provided in Appendix D of this report. Specific compound detection limits can be found in Appendix F (the analytical section) of this report. See figures 3-2 and 3-3 for specific sampling locations. During the course of the inspection the IEPA personnel were accompanied by Mr. James Miller, who represented Carus Chemical Company. Samples were split with Mr. Miller as requested.

Chemical analysis of four of the groundwater samples collected by the site inspection personnel revealed the presence of semi-volatile and inorganic substances. Analysis of the five soil samples collected during the inspection revealed elevated concentrations of the following substances: volatiles, semi-volatiles, pesticides, metals, suspected laboratory artifacts and common inorganic soil constituents. Sediment samples collected contained volatiles, semi-volatiles and metals. See Table F-1 for the summary of the sample results. Complete laboratory analytical data for the samples are provided in Appendix F of this report.

3.8 KEY SAMPLES

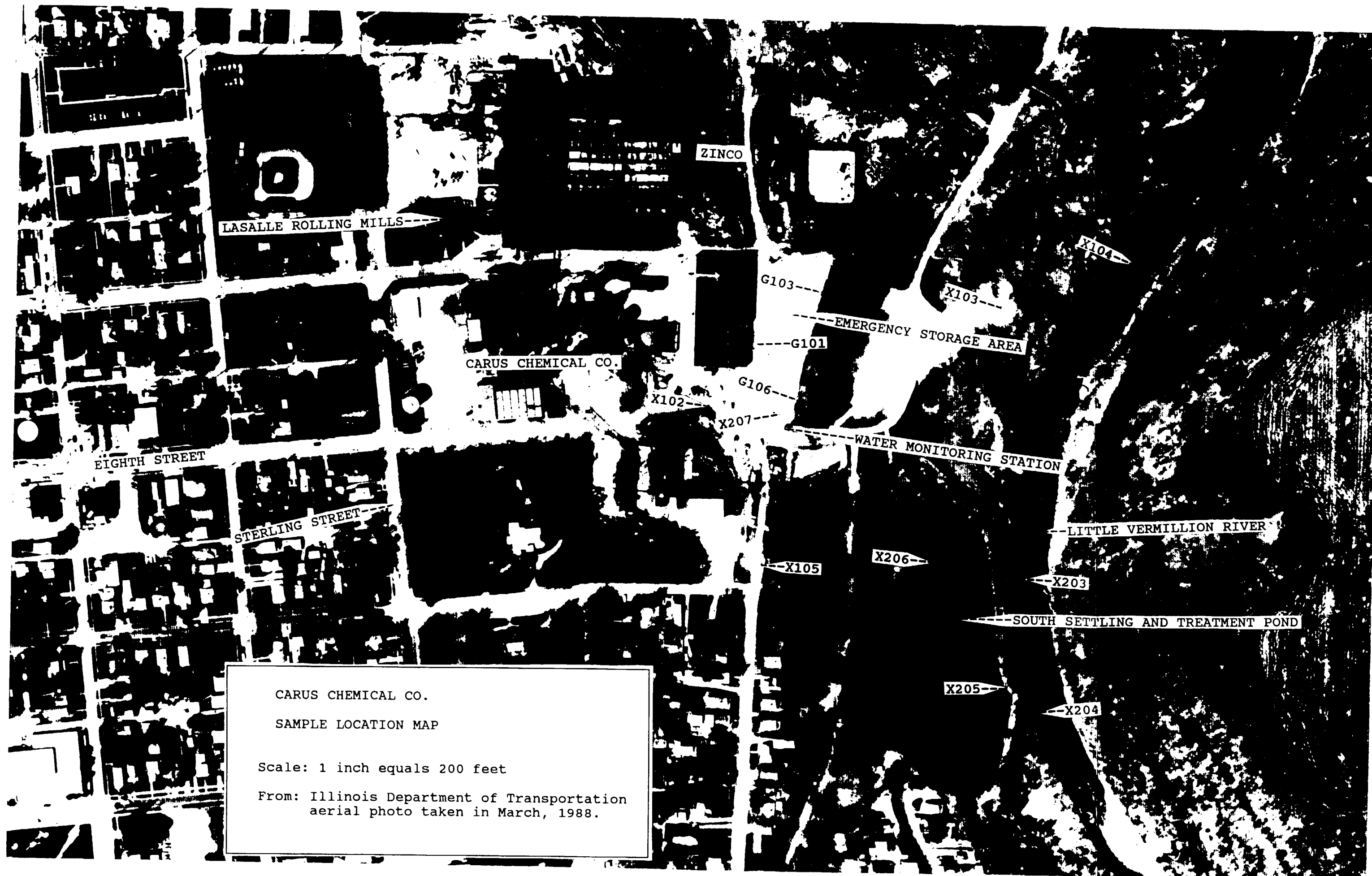
Samples collected during the Screening Site Inspection



CARUS CHEMICAL CO.

SAMPLE LOCATION MAP

(From LaSalle, 1979 USGS
7.5 minute topographic
quadrangle map)



CARUS CHEMICAL CO.

SAMPLE LOCATION MAP

Scale: 1 inch equals 200 feet

From: Illinois Department of Transportation
aerial photo taken in March, 1988.

of the Carus Chemical Company facility indicate concentrations of contaminants at levels that are significantly above background at certain sampling points. The following tables indicate the key samples noted during the Carus Chemical Company Screening Site Inspection. For a more detailed sample analysis, refer to Table F-1 sample summary located at the front of Volume 2 of 2 of this report.

SITE NAME Carus Chemical Co.
 ILD NUMBER 005477666

TABLE 3-3
Key Samples
(Sediments)

[illegible]

SITE NAME Carus Chemical Co.
 ILD NUMBER 005477666

TABLE 3-4
 KEY SAMPLE SUMMARY
 (Groundwater and Soil)

SAMPLING POINT	BACKGROUND				BACKGROUND				
	G 112	G 101	G 103	G 106	X 101	X 102	X 103	X 104	X 105
	11-20-91	11-20-91	11-20-91	11-20-91	11-20-91	11-20-91	11-21-91	11-21-91	11-20-91
PARAMETER									
VOLATILES									
Acetone	10 U	--	--	--	13 U	--	--	--	53
	ug/L	ug/L	ug/L	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMI-VOLATILES									
Fluoranthene	10 U	--	--	--	420 U	1200	--	--	--
Pyrene	10 U	--	--	--	140 U	1200	--	--	--
	ug/L	ug/L	ug/L	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
PESTICIDES									
Aroclor-1254	1.0 U	--	--	--	42 U	2800	--	--	220
Aroclor-1260	1.0 U	--	--	--	42 U	1100	--	--	170
	ug/L	ug/L	ug/L	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
TENTATIVELY IDENTIFIED COMPOUNDS									
Ethane, 1,1,2-trichloro-1,2	--	--	--	--	13	--	--	--	43
Hexanoic acid, 2-ethyl-	--	--	--	--	--	120	--	--	--
	ug/L	ug/L	ug/L	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
INORGANICS					>>				
Aluminum	3,400	48,300	123,000	55,000	18,400	--	--	--	--
Arsenic	3.0 U	21.1	--	--	15.3	--	245	--	--
Barium	166	--	2530	--	148	--	820	--	--
Beryllium	1 B	--	13	5 B	--	--	--	--	--
Cadmium	2 B	37	19	35	13.4	--	40.5	70.7	--
Calcium	200 U	--	655,000	654,000	4,890	64,400	32,200	--	54,900
Chromium	7 B	57	248	121	--	--	--	--	--
Cobalt	10 B	47 B	71.1	74	--	--	--	--	--
Copper	27	100	249	385	28.6	409	278	417	--
Iron	6,110	33,800	208,000	84,600	--	--	--	--	--
Lead	9.0 U	448	179	109	80.8	--	38,700	730	--
Magnesium	61,000	--	195,000	--	2,580	35,600	--	--	19,700
Manganese	260	3,700	14,400	9,110	804	118,000	--	2,510	12,700
Mercury	0.20 U	1.6	--	--	0.095 U	--	--	1.3	--
Nickel	24 B	75	207	116	14.1	44.7	--	--	--
Potassium	8,360	33,800	46,100	133,000	1,790	--	--	--	6,810
Silver	--	--	--	--	1.5 U	20.6	--	--	--
Sodium	165,000	--	2,002,000	215,000	--	--	--	--	--
Vanadium	12 B	62	265	92	--	--	--	--	--
Zinc	22 B	3,320	3,640	17,100	1,200	--	--	43,700	--
Sulfate	174,000	1,060,000	1,680,000	2,080,000	10	254	274	89.5	296
	ug/L	ug/L	ug/L	ug/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

4. IDENTIFICATION OF SOURCES

4.1 Introduction

In this section the author will briefly discuss the various hazardous waste sources which have been identified in the initial stages of the CERCLA site investigation.

Information concerning the size, volume, and waste composition of each source has been derived throughout the initial site assessment, reconnaissance visits, and the screening site inspection sampling action. It should be pointed out, however, that the total number and nature of each of the sources identified below may be subject to change, as the site progresses through the CERCLA site investigation program and receives further investigation.

4.2 Emergency Storage Area

The Emergency Storage Area is located east of the manufacturing facilities and is designed to hold approximately 2,644,000 gallons. It is designed to hold storm water and runoff on an emergency basis and consists of a lined pond of approximately two acres in area. Samples of the three monitoring wells (G101, G103 and G106) located around the pond indicate that the groundwater contains analytically significant levels of a number of inorganic substances, including arsenic, barium, cadmium, lead, manganese, mercury, zinc and sulfate as well as other metals.

Pathways of concern include groundwater and surface water.

4.3 South Settling and Treatment Pond

This pond is approximately four acres in area and is used to hold process and runoff water before it is discharged via an overflow pipe into the Little Vermilion River. Sediment samples collected from this pond contained analytical significant levels of the semi-volatiles phenanthrene, fluoranthene, pyrene, crysene, benzo (a) anthracene, benzo (b) fluoranthene and. Also present were significant quantities of various metals, including arsenic, barium, chromium, copper, lead, manganese, mercury and zinc. The pathways that are potentially at risk are groundwater and surface water.

4.4 Cinder and Slag Area.

In the northeastern portion of the Carus Chemical Company site is an area that consists of slag and cinders that were apparently deposited over the years by the zinc processing company located adjacent to Carus Chemical on the north. The exact depth and area of deposit is unknown, however, there appears to be evidence that a substantial amount of the eastern part of the site has been filled with cinders and other debris. An inspection of aerial photographs of the site obtained from the Illinois Department of Transportation suggest that there are approximately 5.5 acres of fill material at the northeastern corner of the Carus Chemical Company site. Well logs of the monitoring wells,

located approximately 400 feet west, indicate that cinders were encountered during their drilling. Analytically significant levels of metals were present in soil samples collected in this area. These include antimony, arsenic, cadmium, copper, lead, mercury and zinc. Pathways of concern include: groundwater, soil exposure and surface water.

4.5 Former Filter Bag and Drum Storage Area.

Filled filter bags and drums were stored in the southeastern part of the site used for manufacturing and covered approximately 2500 square feet. Soil sample X102 contained analytically significant levels of the semi-volatile compounds fluoranthene and pyrene. The pesticides Arochlor-1254 and Arochlor-1260 were also present as well as the metals copper, calcium, magnesium, manganese and nickel. Pathways of concern include groundwater, surface water, soil exposure and air.

4.6 Potential Waste Piles

Carus Chemical Company has been in operation at the same location since 1915 and little is known about the early waste disposal practices of the company or the zinc facility to the north. The zinc operation has been in business longer than Carus and environmental problems may be present due to the nature of the substances used and produced over the years. The Screening Site Inspection of the Carus Chemical Company indicate that there are areas contaminated with heavy metals and coal tar derivatives and the potential exists that there are other areas onsite that are at present unknown.

5. MIGRATION PATHWAYS

5.1 INTRODUCTION

This section includes data and information that may be useful in analyzing the Carus Chemical Company sites' impact on the four migration pathways identified in CERCLA's hazard ranking system (HRS). The migration pathways which will be analyzed in this section include groundwater, surface water, air and soil exposure.

5.2 GROUNDWATER

Groundwater samples were collected from four monitor wells. The results from the four monitor wells indicate an observed release to groundwater that is attributable to the site. The compounds found three times background concentrations or above detection limits are shown in Table 3-3. Sampling location G112 represents the background monitoring well. No private wells are known to exist near the site and hence none were sampled.

The geology of the Carus Chemical Company area is characterized by Wisconsin glacial till overlying the bedrock. The bedrock consists of fractured Silurian and Ordovician-age dolomites and the St. Peter sandstone. The nearest documented well from the site is .7 mile south and is one of a cluster of four wells used to supply the city of LaSalle. These wells are from 60 to 70 feet deep and draw

from the sand and gravel aquifer. The city of Peru, located adjacent to LaSalle on the west, draws its water from the St. Peter sandstone at depths from 2,591 to 2,764 feet. There are approximately 26,000 people using groundwater within a four mile radius of the site. The approximate population that use groundwater derived from aquifers in the area around Carus Company is:

<u>Distance (miles)</u>	<u>Population</u>
0 to 1/4	0
>1/4 to 1/2	0
>1/2 to 1	9,467
>1 to 2	132
>2 to 3	11,208
>3 to 4	5,240

5.3 SURFACE WATER PATHWAY

No surface water samples were collected during the November 20 and 21, 1991 Screening Site Inspection of the Carus Chemical Company site. Almost all drainage from the site flows east and enters the little Vermilion River either directly or via overflow from the south settling pond. The water flows south for three quarters of a mile and enters the Illinois river, where it then flows west. Illinois Environmental Protection Agency records do not document the existence of any surface water drinking intakes along the 15-mile surface water route downstream of the site. Both the Little Vermilion and Illinois Rivers are used for

recreational purposes. There are approximately 13.4 miles of total wetland frontage along the 15-mile surface water route from the site, with the nearest wetland being the approximately four acre south settling and treatment pond that is located onsite. Illinois Department of Conservation records indicate that the nearest environmental sensitive area is located approximately 13 miles downstream from the site at the DePue Lake Conservation area. According to the Flood Insurance Rate Map for LaSalle, the site is located above the 500 year flood stage.

5.4 AIR PATHWAY

No documented releases to the air were observed in the breathing zone during the CERCLA Screening Site Inspection. A photo-ionization detector (HNU) with an 11.7 eV lamp was used to determine the presence of certain air-borne contaminants. No readings were observed over background levels. The potential for windblown particulates to carry contaminants off-site is possible since contaminants were found in the top six inches of soil on-site. The west portion of the site is still active with traffic consisting primarily of trucks and material handling devices. This area contains sparse vegetation and is covered by large areas of gravel. The eastern part of the site contains areas of vegetation but the ruggedness of the terrain limits growth primarily to the less steep areas or areas that do not consist of exposed cinders and slag. Approximately 27,000 people live within a four mile radius of the site. The approximate population

living within a four mile radius of the site is:

<u>Distance (miles)</u>	<u>Population</u>
on-site	105
0 to 1/4	1,035
>1/4 to 1/2	2,069
>1/2 to 1	6,229
>1 to 2	6,965
>2 to 3	8,212
>3 to 4	3,099

5.5 SOIL EXPOSURE

Soil samples taken during the Screening Site Inspection indicate an observed release to the soil exposure pathway by contaminants that are attributable to the site. However the site is not easily accessible. The facility is still active and entrance to the site by vehicle is through a guarded gate off of Eighth Street. The facility is surrounded by a fence along the south, west and north sides. The Little Vermilion River forms the east boundary of the property and its steep banks would limit any trespassing to foot traffic. The nearest individual (residence) is located 200 feet southwest of the site. A review of USGS topographic maps, reconnaissance visit, and U.S. Census data indicate that approximately 9,400 people live within a one-mile radius of the site. This estimate is based on the population of the cities of Peru and LaSalle and unincorporated area and average person-per-household of LaSalle county.

6. BIBLIOGRAPHY

Illinois Environmental Protection Agency, 1991, Site Preliminary Assessment for Carus Chemical Company, ILD 005477666, prepared by Robert Casper, Springfield, Illinois.

Illinois Department of Conservation, June 12, 1991. Letter from Mr. Richard Lutz to Mr. Robert Casper of the Illinois Environmental Protection Agency concerning sensitive environments near Carus Chemical Company.

Illinois Department of Energy and Natural Resources, State Water Survey, water well records of wells in LaSalle County, Sections 1-3, 9, 11, 12, 22, 26, 28, 29, 34 and 35, T33N, R1E ; Sections 5-8, 17, 20, 29 and 30, T33N, R2E; Sections 25-29, 32, 33, 35 and 36, T34N, R1E; and Sections 29-32, T34N, R2E.

Illinois Department of Transportation, May 24, 1991. Order for aerial photographs of Carus Chemical Company.

United States Department of the Interior, National Wetlands Inventory maps for Ladd, LaSalle, Spring Valley and Troy Grove, IL. Quadrangles, 7.5 Minute Series.

U.S. Census Bureau, 1990, Average persons per household in LaSalle County, Illinois.

USGS, 1966, Ladd, IL. Quadrangle, 7.5 Minute Series.

USGS, 1979, LaSalle, IL. Quadrangle, 7.5 Minute Series.

USGS, 1979, Spring Valley, IL. Quadrangle, 7.5 Minute Series.

USGS, 1979, Troy Grove, IL. Quadrangle, 7.5 Minute Series.

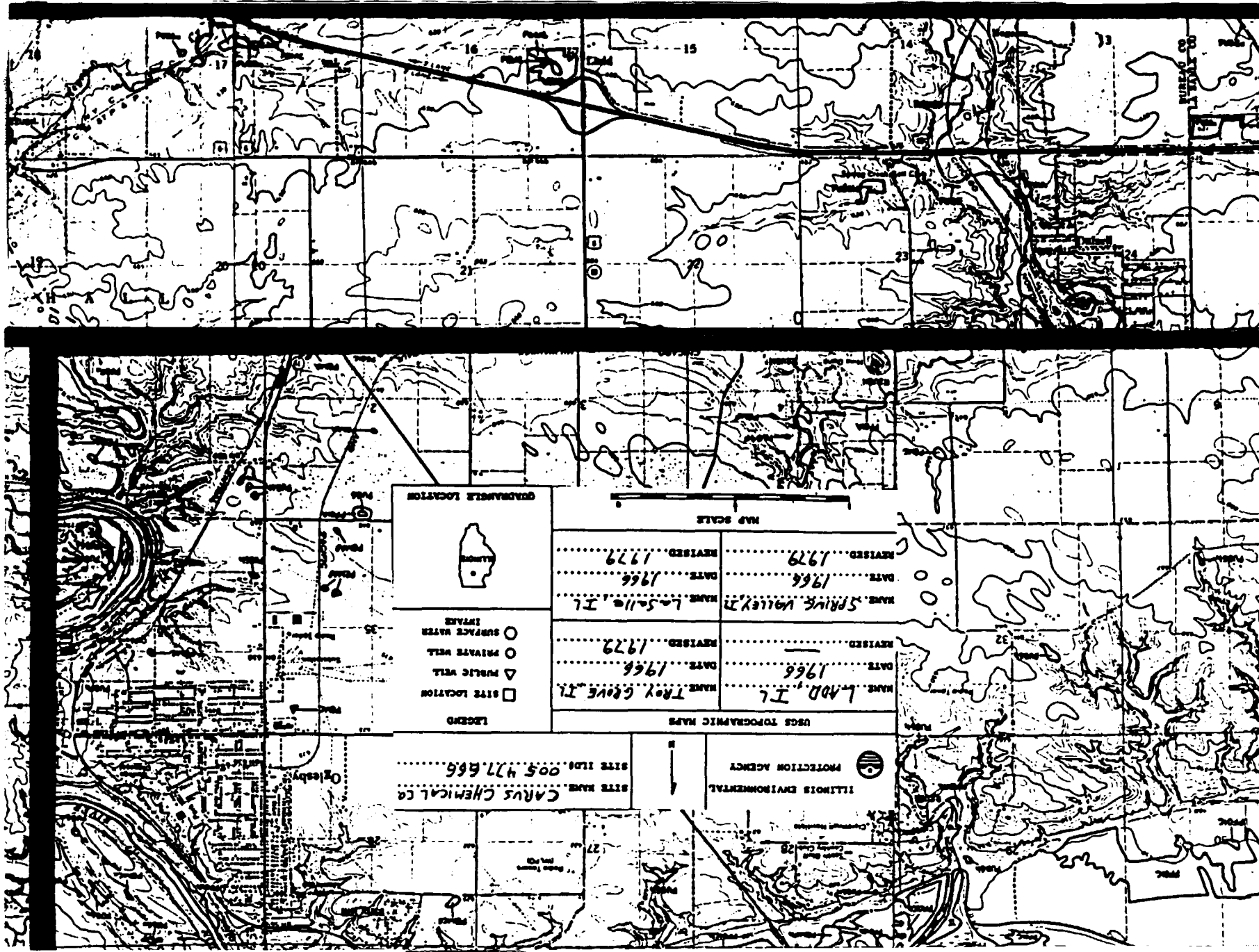
APPENDIX A

GROUNDWATER 4-MILE RADIUS MAP

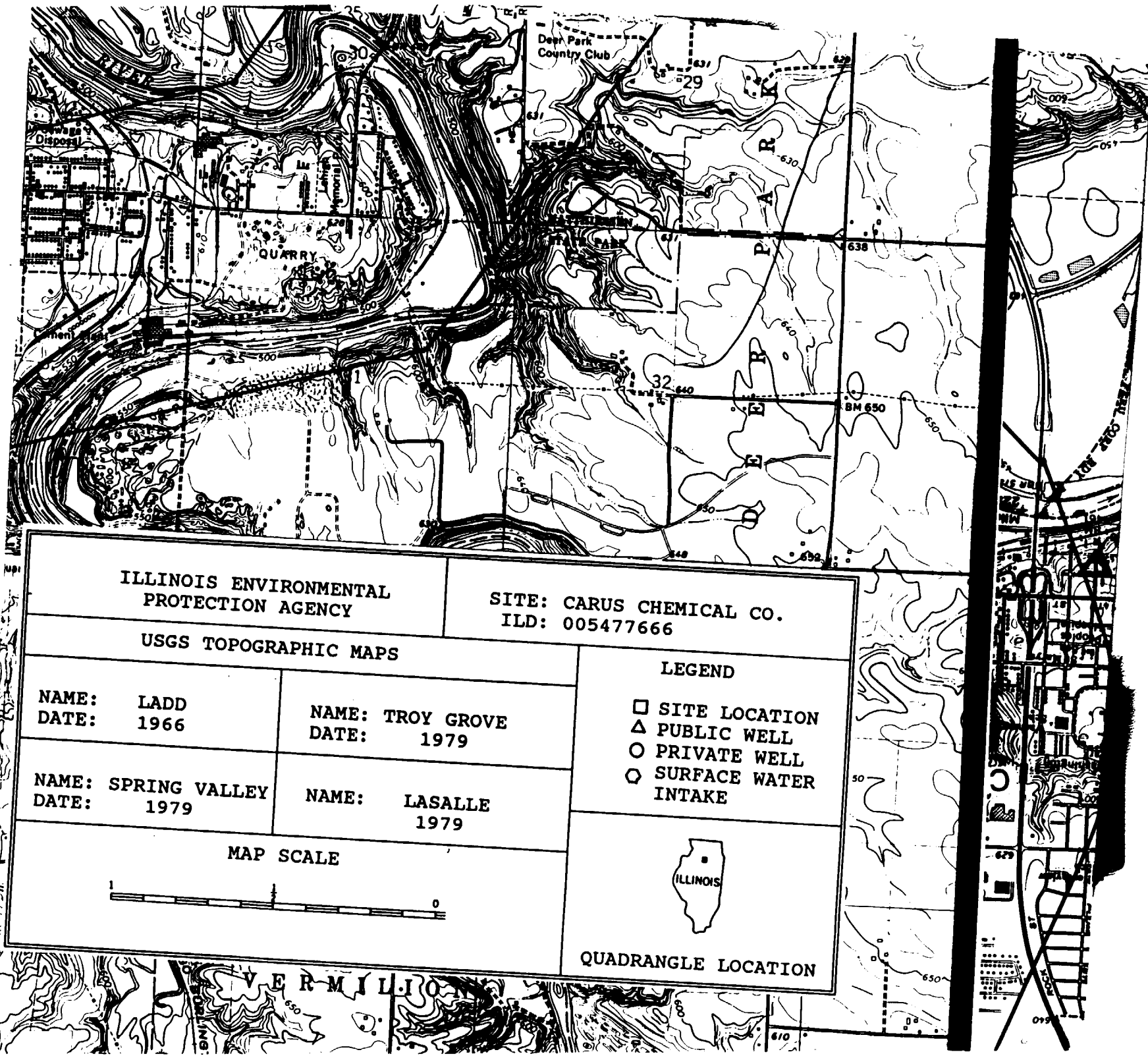
APPENDIX B

SURFACE WATER ROUTE MAP

OVERLAP - This map is partially scanned



OVER 51 JED - This map is
PARTIALLY SCANNED



APPENDIX C

USEPA FORM 2070-13



Site Inspection Report



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER
ILD | 005477666

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, historical, or descriptive name of site) CARUS CHEMICAL COMPANY		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 1500 EIGHTH STREET				
03 CITY La Salle		04 STATE IL	05 ZIP CODE 61301	06 COUNTY LaSalle	07 COUNTY CODE 099	08 CONG. DIST. IL-14
09 COORDINATES LATITUDE 41 20 05.0 LONGITUDE 089 05 00.0		10 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN				

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 11 20 91 MONTH DAY YEAR	02 SITE STATUS <input checked="" type="checkbox"/> ACTIVE <input type="checkbox"/> INACTIVE	03 YEARS OF OPERATION 1915 BEGINNING YEAR ENDING YEAR UNKNOWN	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR <input checked="" type="checkbox"/> E. STATE <input type="checkbox"/> F. STATE CONTRACTOR <input type="checkbox"/> G. OTHER			

05 CHIEF INSPECTOR ROBERT CASPER	06 TITLE EPS	07 ORGANIZATION IEPA	08 TELEPHONE NO. (217) 782-6761
09 OTHER INSPECTORS GREG DUNN	10 TITLE EPS	11 ORGANIZATION IEPA	12 TELEPHONE NO. (217) 782-6761
TIMOTHY MURPHY	EPS	IEPA	(217) 782-6761
KIM NIKA	EPS	IEPA	(217) 782-6761
			()
			()

13 SITE REPRESENTATIVES INTERVIEWED HORST ADOLF	14 TITLE DIRECTOR OF REGULATORY AFFAIRS	15 ADDRESS 1500 EIGHTH STREET LaSalle, IL	16 TELEPHONE NO. (815) 224-6827
JAMES MILLER, P.E.	SENIOR PROTECT ENGINEER	"	(815) 224-6812
DAVID COVEY	DIRECTOR PLANT SUPPORT SERVICES	"	(815) 224-6822
			()
			()
			()

17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT	18 TIME OF INSPECTION 9:00 AM	19 WEATHER CONDITIONS MOSTLY CLOUDY, TEMP 40°F
--	----------------------------------	---

IV. INFORMATION AVAILABLE FROM

01 CONTACT HORST ADOLF	02 OF (Agency or Organization) CARUS CHEMICAL COMPANY	03 TELEPHONE NO. 815 224-6827		
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM ROBERT CASPER	05 AGENCY IEPA	06 ORGANIZATION LPC	07 TELEPHONE NO. 217-782-6761	08 DATE 6 18 92 MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
IL 01 005477666

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)		02 WASTE QUANTITY AT SITE (Measurements of waste quantities must be made separately)	03 WASTE CHARACTERISTICS (Check all that apply)	
<input checked="" type="checkbox"/> A SOLID	<input type="checkbox"/> E SLURRY	TONS _____	<input checked="" type="checkbox"/> A TOXIC	<input type="checkbox"/> E SOLUBLE
<input checked="" type="checkbox"/> B POWDER, FINES	<input type="checkbox"/> F LIQUID	CUBIC YARDS _____	<input type="checkbox"/> B CORROSIVE	<input type="checkbox"/> F INFECTIOUS
<input type="checkbox"/> C SLUDGE	<input type="checkbox"/> G GAS	NO. OF DRUMS _____	<input type="checkbox"/> C RADIOACTIVE	<input type="checkbox"/> G FLAMMABLE
<input type="checkbox"/> D OTHER _____	(Specify)		<input checked="" type="checkbox"/> D PERSISTENT	<input type="checkbox"/> H IGNITABLE
				<input type="checkbox"/> I HIGHLY VOLATILE
				<input type="checkbox"/> J EXPLOSIVE
				<input type="checkbox"/> K REACTIVE
				<input type="checkbox"/> L INCOMPATIBLE
				<input type="checkbox"/> M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	ONLY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES	UNKNOWN		
OCC	OTHER ORGANIC CHEMICALS	UNKNOWN		
IOC	INORGANIC CHEMICALS	UNKNOWN		
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	UNKNOWN		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/ DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
PSD	AROCLOR - 1254	11097-69-1	SOIL	2800	PPb
PSD	AROCLOR - 1260	11096-82-5	SOIL	1100	PPb
OCC	PHENANTHRENE	85-01-8	SEDIMENT	1400	PPb
OCC	FLUORANTHENE	206-44-0	SEDIMENT	2300	PPb
OCC	PYRENE	129-0-0	SEDIMENT	2300	PPb
OCC	BENZO (b) FLUORANTHENE	205-99-2	SEDIMENT	1600	PPb
MES	ARSENIC	7440-39-2	SOIL	245	PPM
MES	BARIUM	7440-39-3	SEDIMENT	867	PPM
MES	CADMIUM	7440-43-9	SEDIMENT	70.7	PPM
MES	CHROMIUM	7440-47-3	GROUNDWATER	248	PPb
MES	COPPER	7440-50-8	SEDIMENT	383	PPM
MES	LEAD	7439-92-1	SOIL	38,700	PPM
MES	MANGANESE	7439-96-5	SOIL	118,000	PPM
MES	MERCURY	7439-97-6	SOIL	1.3	PPM
MES	ZINC	7440-66-6	SOIL	43,700	PPM
IOC	SULFATE		GROUNDWATER	2,080,000	PPb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, agency reports, reports)

IEPA LAND DIVISION FILES

LABORATORY RESULTS OF INSPECTION OF NOVEMBER 20 AND 21, 1991



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

L IDENTIFICATION
01 STATE FLD 02 SITE NUMBER 005477666

I. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED 26,000 04 NARRATIVE DESCRIPTION

ALL DRINKING WATER WITHIN A FOUR-MILE RADIUS OF THE SITE IS DERIVED FROM WELLS.

01 ☐ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

LITTLE VERMILION RIVER BORDERS CARUS CHEMICAL COMPANY ON THE EAST. NO KNOWN SURFACE WATER INTAKES WITHIN 15 MILES.

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED.

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED.

01 ☐ F. CONTAMINATION OF SOIL 33-0 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED ACROSS 04 NARRATIVE DESCRIPTION

ORGANIC AND INORGANICS WERE FOUND AT VARIOUS POINTS AT THE FACILITY.

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED 26,000 04 NARRATIVE DESCRIPTION

ALL DRINKING WATER WITHIN A FOUR MILE RADIUS IS OBTAINED FROM GROUNDWATER.

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED.

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
ILD 005477666

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

NONE DOCUMENTED OR OBSERVED.

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (Include number(s) of species)

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

NONE DOCUMENTED OR OBSERVED.

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

NONE DOCUMENTED OR OBSERVED.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills, Punctured Standing Storage, Leaking drums)

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED _____

04 NARRATIVE DESCRIPTION

NONE DOCUMENTED OR OBSERVED.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

NONE DOCUMENTED OR OBSERVED.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

NONE DOCUMENTED OR OBSERVED.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

NONE DOCUMENTED OR OBSERVED.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

NONE KNOWN.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 26,000

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references to § 9, State laws, national surveys, reports)

IEPA FILES
SCREENING SITE INSPECTION OF NOVEMBER 20 & 21, 1991.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
ILD 005477666

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A NPDES	IL0002623	5-29-91	1-1-96	DISCHARGE TO LITTLE VERMILION RIVER
<input type="checkbox"/> B UIC	NONE	-	-	
<input type="checkbox"/> C AIR	88100062	4-9-90	4-95	BURNER + CONCENTRATOR
<input type="checkbox"/> D RCRA	NONE	-		
<input type="checkbox"/> E RCRA INTERIM STATUS	NONE	-		
<input type="checkbox"/> F SPCC PLAN	NONE	-		
<input type="checkbox"/> G STATE (Specify)	1987ER-4176	12-11-87	-	CONTAINMENT PAID
<input type="checkbox"/> H LOCAL (Specify)	-	7-91	6-30-92	CITY OF LANSING WASTEWATER PERMIT
<input type="checkbox"/> I OTHER (Specify)				
<input type="checkbox"/> J NONE				

III. SITE DESCRIPTION

01 STORAGE/ DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input checked="" type="checkbox"/> A SURFACE IMPOUNDMENT	~ 6	ACRES	<input type="checkbox"/> A INCINERATION	<input checked="" type="checkbox"/> A BUILDINGS ON SITE
<input checked="" type="checkbox"/> B PILES	~ 5.5	ACRES	<input type="checkbox"/> B UNDERGROUND INJECTION	MANUFACTURING
<input type="checkbox"/> C DRUMS, ABOVE GROUND			<input type="checkbox"/> C CHEMICAL/PHYSICAL	WAREHOUSES
<input type="checkbox"/> D TANK, ABOVE GROUND			<input type="checkbox"/> D BIOLOGICAL	06 AREA OF SITE
<input type="checkbox"/> E TANK, BELOW GROUND			<input type="checkbox"/> E WASTE OIL PROCESSING	~ 33
<input type="checkbox"/> F LANDFILL			<input type="checkbox"/> F SOLVENT RECOVERY	(ACRES)
<input type="checkbox"/> G LANDFARM			<input type="checkbox"/> G OTHER RECYCLING/RECOVERY	
<input type="checkbox"/> H OPEN DUMP			<input type="checkbox"/> H OTHER (Specify)	
<input type="checkbox"/> I OTHER (Specify)				

07 COMMENTS

SITE CONTAINS TWO PONDS AND AN AREA OF SLAG AND CINDER DEPOSITION.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DRUMS, LINERS, BARRIERS, ETC.

EMERGENCY STORAGE AREA CONSTRUCTED WITH CLAY LINER.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES ☒ NO
02 COMMENTS

VI. SOURCES OF INFORMATION (List specific persons or organizations that provided information)

IEPA FILES -



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 005477666

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY
(Check as applicable)

SURFACE WELL
COMMUNITY A ☐ B ☒
NON-COMMUNITY C ☐ D ☐

02 STATUS

ENDANGERED AFFECTED MONITORED
A ☐ B ☐ C ☐
D ☐ E ☐ F ☐

03 DISTANCE TO SITE

A. 7 (mi)
B. (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING
(Other sources available)
COMMERCIAL INDUSTRIAL IRRIGATION
(No other water source is available)
☐ C. COMMERCIAL INDUSTRIAL IRRIGATION
(Limited other sources available)
☐ D. NOT USED, UNUSABLE

02 POPULATION SERVED BY GROUND WATER 26,000

03 DISTANCE TO NEAREST DRINKING WATER WELL 7 (mi)

04 DEPTH TO GROUNDWATER

60 (ft)

05 DIRECTION OF GROUNDWATER FLOW

UNKNOWN

06 DEPTH TO AQUIFER
OF CONCERN

60 (ft)

07 POTENTIAL YIELD
OF AQUIFER

(gpd)

08 SOLE SOURCE AQUIFER

☐ YES ☒ NO

09 DESCRIPTION OF WELLS (including use, depth, and location relative to production and buildings)

La Salle WELLS UTILIZE THE SAND AND GRAVEL AQUIFER AT DEPTHS OF 60 TO 70 FEET AND ARE LOCATED 0.7 MI SOUTH.
PERU WELLS DRAW FROM THE ST. PETER SANDSTONE AT DEPTHS OF 2,591 TO 2,764 FEET AND ARE LOCATED 2-1 MILES FROM THE SITE.

10 RECHARGE AREA

☒ YES COMMENTS
☐ NO SURFACE SOILS.

11 DISCHARGE AREA

☒ YES COMMENTS
☐ NO ILLINOIS RIVER

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR RECREATION
DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY
IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME

AFFECTED

DISTANCE TO SITE

LITTLE VERMILION RIVER

☐

0.0 (mi)

ILLINOIS RIVER

☐

0.75 (mi)

☐

(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE

A. 9,438
NO OF PERSONS

TWO (2) MILES OF SITE

B. 16,403
NO OF PERSONS

THREE (3) MILES OF SITE

C. 24,615
NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION

0.04 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

UNKNOWN

04 DISTANCE TO NEAREST OFF-SITE BUILDING

0.01 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site. If rural, village, densely populated urban area)

SITE IS BORDERED BY HOUSES ON THE EAST AND SOUTH SIDES.
HOUSES CONSIST OF SINGLE FAMILY DWELLINGS. TOTAL POPULATION
WITHIN A 4-MILE RADIUS OF THE SITE IS APPROXIMATELY
27,700 PEOPLE.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 005477666

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-8} - 10^{-9}$ cm/sec ☐ B. $10^{-6} - 10^{-8}$ cm/sec ☒ C. $10^{-4} - 10^{-6}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE
(Less than 10^{-8} cm/sec)
☐ B. RELATIVELY IMPERMEABLE
($10^{-8} - 10^{-6}$ cm/sec)
☒ C. RELATIVELY PERMEABLE
($10^{-6} - 10^{-4}$ cm/sec)
☐ D. VERY PERMEABLE
(Greater than 10^{-4} cm/sec)

03 DEPTH TO BEDROCK

95 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

UNKNOWN (ft)

05 SOIL BM

UNKNOWN

06 NET PRECIPITATION

+ 2.0 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.5 (in)

08 SLOPE

SITE SLOPE
30-60

DIRECTION OF SITE SLOPE

TOWARDS THE EAST

TERRAIN AVERAGE SLOPE

230

09 FLOOD POTENTIAL

SITE IS IN 500 YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 ac or more)

ESTUARINE

A _____ (mi)

OTHER

B 0.0 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

>15 (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS, NATIONAL/STATE PARKS,
FORESTS, OR WILDLIFE RESERVES

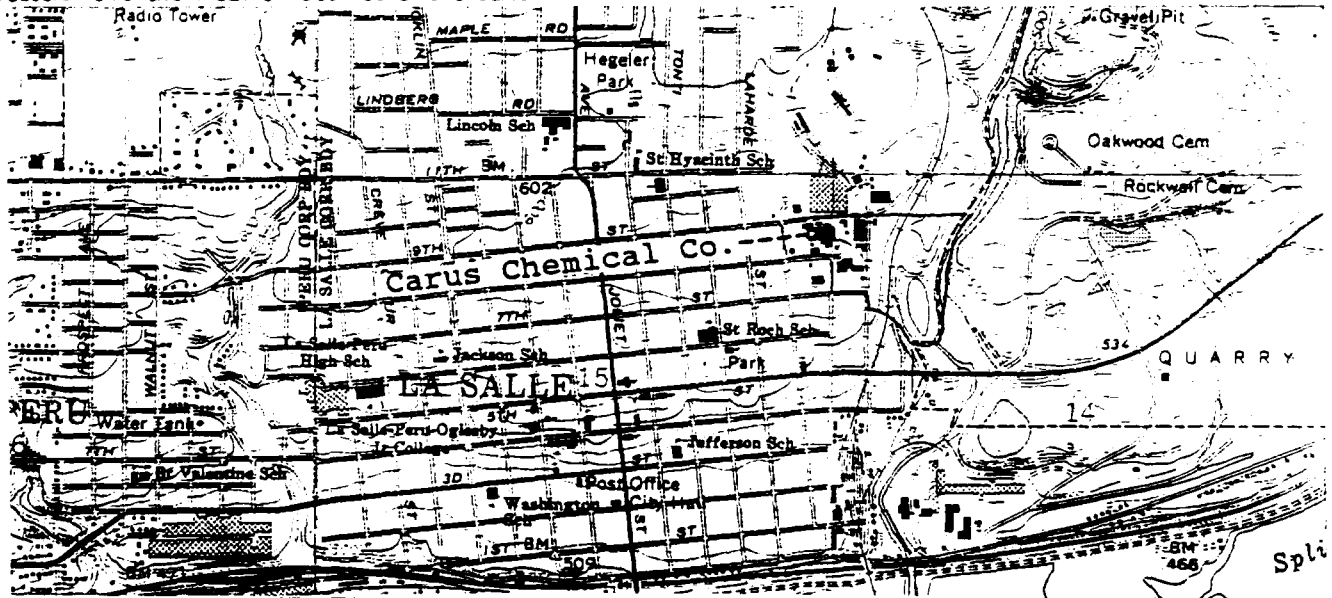
AGRICULTURAL LANDS
PRIME AG LAND AG LAND

A 0.01 (mi)

B 0.04 (mi)

C _____ (mi) D 0.75 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY



VII. SOURCES OF INFORMATION



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 005477666

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	4	ARDL, INC. MT. VERNON, IL.	12-91
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	5	ARDL, INC. MT. VERNON, IL	12-91
VEGETATION			
OTHER	SPEC SEDIMENT	ARDL, INC. MT. VERNON, IL	12-91

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
PHOTO-IONIZATION DETECTOR (HNU)	NO READINGS OVER BACKGROUND
pH (WATER)	—
TEMP (WATER)	—
CONDUCTIVITY (WATER)	—

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input checked="" type="checkbox"/> GROUND <input checked="" type="checkbox"/> AERIAL	02 IN CUSTODY OF IEPA <small>NAME OF ORGANIZATION OR INDIVIDUAL</small>
03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS IEPA / LPC

V. OTHER FIELD DATA COLLECTED (Provide references and description)

NONE -

VI. SOURCES OF INFORMATION (Cite specific references e.g. State Dept. Laboratory Reports, Reports)

IEPA FILES

CERCLA SCREENING SITE INSPECTION OF NOVEMBER 20 & 21, 1991 -



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

L IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 005477666

II. CURRENT OWNER(S)				PARENT COMPANY (If applicable)			
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
CARUS CHEMICAL COMPANY V		005477666					
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
1500 EIGHTH STREET		2819					
06 CITY		08 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
LA SALLE,		IL	61301				
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD, etc.)		11 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
III. PREVIOUS OWNER(S) (Last model year only)				IV. REALTY OWNER(S) (If applicable, last model year only)			
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	06 CITY		08 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	06 CITY		08 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD, etc.)		04 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	06 CITY		08 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Check specific references or all; circle those sources which are reliable)



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 005477666

II. CURRENT OPERATOR (Provide 4 different from owner)				OPERATOR'S PARENT COMPANY (if applicable)			
01 NAME N/A		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) (List most recent first, provide only 4 different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, R.F.D.#, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
IV. SOURCES OF INFORMATION (List specific references, e.g., state files, agency reports, etc.)							



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	005477666

II. ON-SITE GENERATOR

01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references to § 3005 files, reports, studies, records)

IEPA FILES



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 005477666

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION CARUS CHEMICAL COMPANY PERSONNEL SPREAD MANGANESE SULFATE AND DISULFIDE ON THE SURFACE OF THE SOUTH SETTLING AND TREATMENT POND TO CONTROL ACCIDENTAL RELEASE OF PERMANGANATE.	02 DATE 4-2-84	03 AGENCY IEA
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I IDENTIFICATION
01 STATE 02 SITE NUMBER
ILD 005477 666

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R BARRIER WALLS CONSTRUCTED

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ S CAPPING/COVERING

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ T BULK TANKAGE REPAIRED

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ U GROUT CURTAIN CONSTRUCTED

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ V BOTTOM SEALED

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ W GAS CONTROL

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ X FIRE CONTROL

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ Y LEACHATE TREATMENT

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ Z AREA EVACUATED

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ 1 ACCESS TO SITE RESTRICTED

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ 2 POPULATION RELOCATED

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

N/A

01 ☐ 3 OTHER REMEDIAL ACTIVITIES

02 DATE _____

03 AGENCY _____

04 DESCRIPTION

NONE

III SOURCES OF INFORMATION (List specific references to EPA files, other agency reports, etc.)

EPA FILES



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	005-477666

II. ENFORCEMENT INFORMATION

01. PART REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02. DESCRIPTION OF FEDERAL STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

NONE

III. SOURCES OF INFORMATION (Cite specific references, e.g., State files, reports, interviews, etc.)

EPA FILES.

APPENDIX D

TARGET COMPOUND LIST

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1,2-Dichloropropane
Bromomethane	cis-1,3-Dichloropropene
Vinyl Chloride	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1,1,2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1,3-Dichloropropene
1,1-Dichloroethene	Bromoform
1,1-Dichloroethane	4-Methyl-2-pentanone
1,2-Dichloroethene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
2-Butanone	Toluene
1,1,1-Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2,4-Dinitrotoluene
bis(2-Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis(2-Chloroisopropyl) Ether	Hexachlorobenzene
N-Nitroso-Di-n-Propylamine	Phenanthrene
Nitrobenzene	4-Bromophenyl-phenylether
Hexachlorobutadiene	Anthracene
2-Methylnaphthalene	Di-n-Butylphthalate
1,2,4-Trichlorobenzene	Fluoranthene
Isophorone	Pyrene
Naphthalene	Butylbenzylphthalate
4-Chloroaniline	bis(2-Ethylhexyl) Phthalate
bis(2-chloroethoxy) Methane	Chrysene
Hexachlorocyclopentadiene	Benzo(a) Anthracene
2-Chloronaphthalene	3,3'-Dichlorobenzidene
2-Nitroaniline	Di-n-Octyl Phthalate
Acenaphthylene	Benzo(b) Fluoranthene
3-Nitroaniline	Benzo(k) Fluoranthene
Acenaphthene	Benzo(a) Pyrene
Dibenzofuran	Indeno(1,2,3-cd) Pyrene
Dimethyl Phthalate	Dibenz(a,h) Anthracene
2,6-Dinitrotoluene	Benzo(g,h,i) Perylene
Fluorene	1,2-Dichlorobenzene
4-Nitroaniline	1,3-Dichlorobenzene
4-Chlorophenyl-phenylether	1,4-Dichlorobenzene

Acid Target Compounds

Benzoic Acid	2,4,6-Trichlorophenol
Phenol	2,4,5-Trichlorophenol
2-Chlorophenol	4-Chloro-3-methylphenol
2-Nitrophenol	2,4-Dinitrophenol
2-Methylphenol	2-Methyl-4,6-dinitrophenol
2,4-Dimethylphenol	Pentachlorophenol
4-Methylphenol	4-Nitrophenol
2,4-Dichlorophenol	

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta-BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlorodane
Heptachlor	gamma-Chlorodane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4,4'-DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4,4'-DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4,4'-DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobalt	Vanadium
Copper	Zinc
Iron	Cyanide
Lead	Sulfide
Magnesium	Sulfate

APPENDIX E

IEPA SITE PHOTOGRAPHS

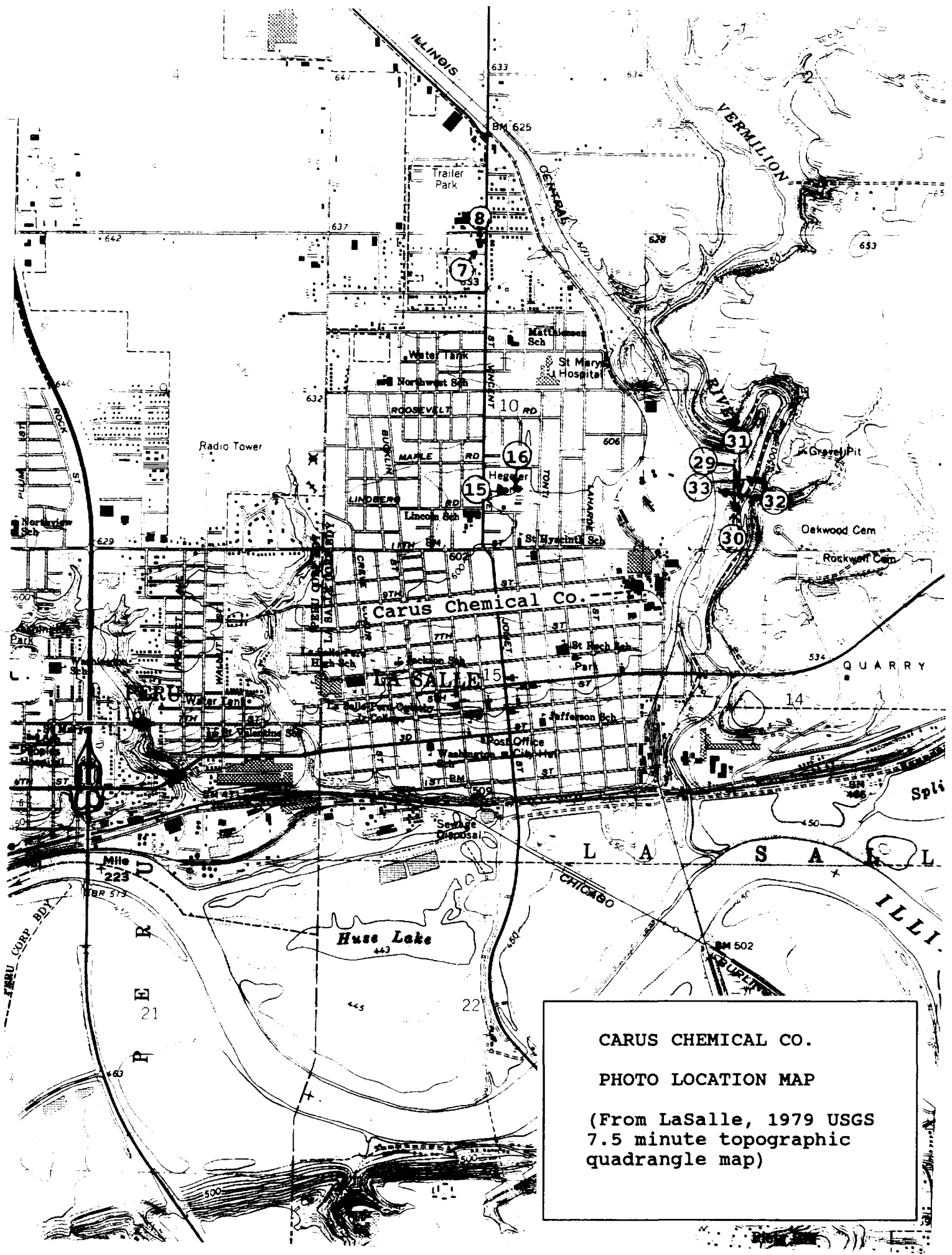


CARUS CHEMICAL CO.

PHOTO LOCATION MAP

Scale: 1 inch equals 200 feet

From: Illinois Department of Transportation
aerial photo taken in March, 1988.



CARUS CHEMICAL CO.

PHOTO LOCATION MAP

(From LaSalle, 1979 USGS
7.5 minute topographic
quadrangle map)

DATE: November 20, 1991

TIME: 10:15 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER: 1

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the north.

Sample point G101. Carus
monitoring well located
along the western side
of Emergency Storage
Site.



DATE: November 20, 1991

TIME: 10:15 AM

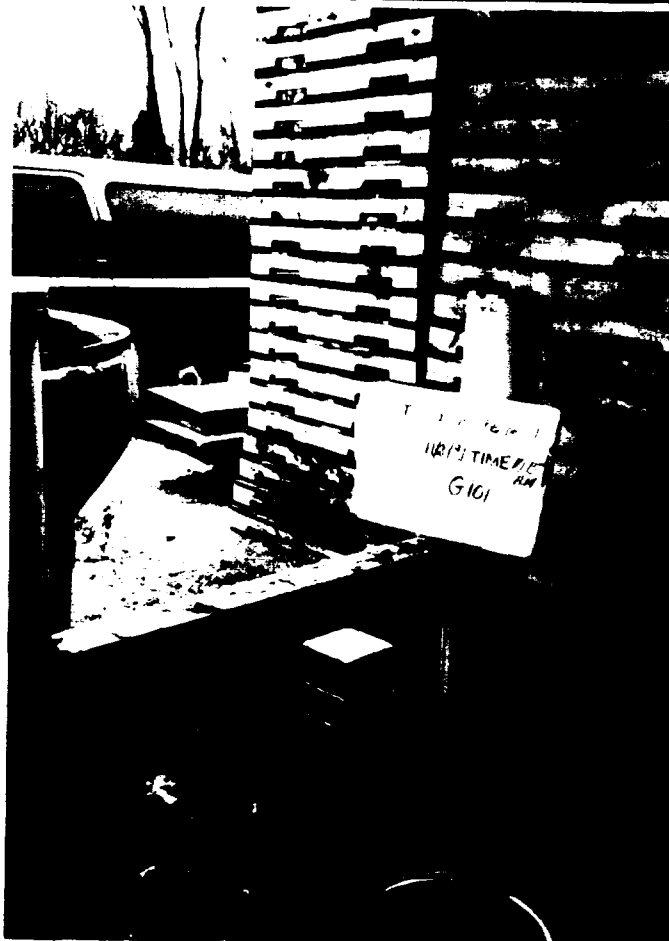
PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 2

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the southeast.

Sample point G101. This
well is approximately
24.5 feet deep.



DATE: November 20, 1991

TIME: 11:15 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 3

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the south.

Sample point G103. Carus
monitoring well located
along the eastern bank
of Emergency Storage
Site. The monitoring
station is at the end of
the chain link fence.



DATE: November 20, 1991

TIME: 11:15 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 4

LOCATION: Carus Chemical
Company. ILD 005477666

PICTURE TAKEN TOWARD
the north northwest.

Sample point G103.
Emergency Storage Area
is to the left of photo.
This well is approximate-
ly 23.5 feet deep.



DATE: November 20, 1991

TIME: 12:07 PM

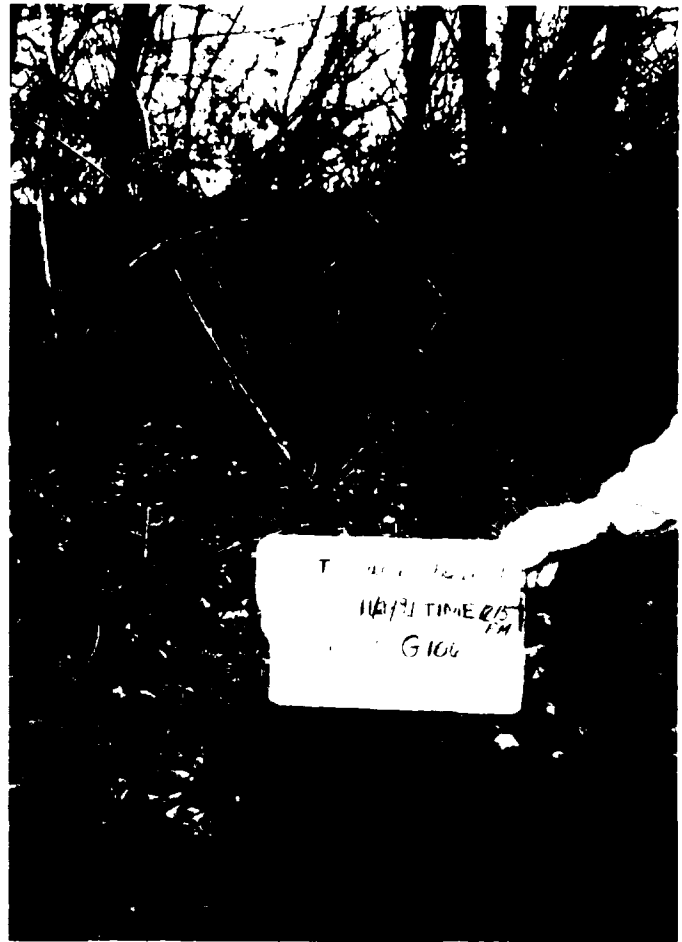
PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 5

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the southeast.

Sample point G106. Carus
monitoring well located
along the southeast edge
of Emergency Storage
Area.



DATE: November 20, 1991

TIME: 12:07 PM

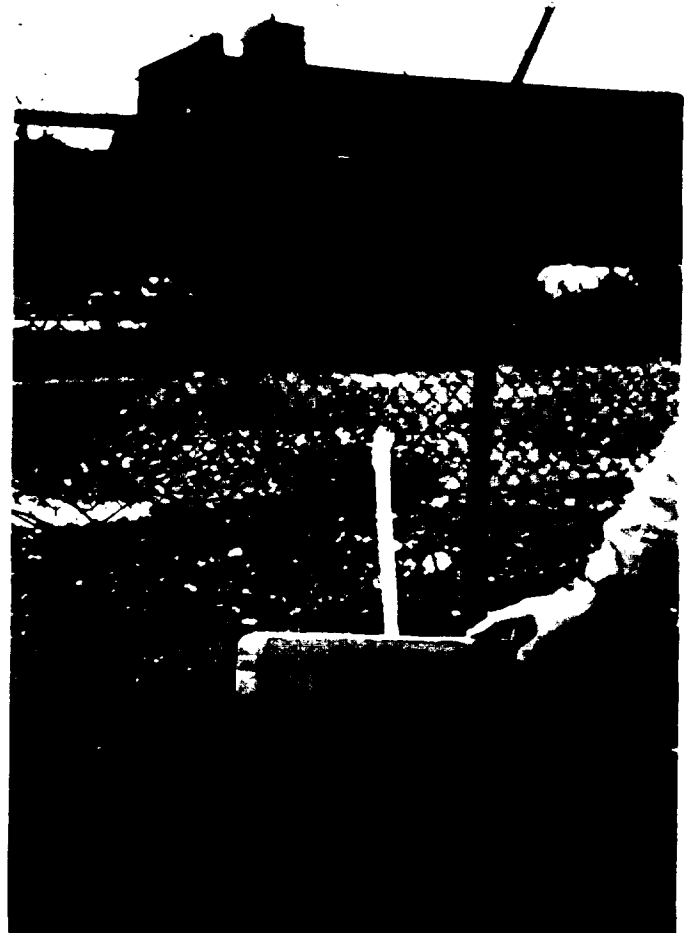
PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 6

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the northwest.

Sample point G106.
Emergency Storage Area
is visible in the center
of the photo. This well
is approximately 32 feet
deep.



DATE: November 20, 1991

TIME: 2:15 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 7

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the northeast.

Sample G112 was obtained
from an IEPA monitoring
well located at the
southeast corner of the
LaSalle Electrical
Utilities site.



DATE: November 20, 1991

TIME: 2:15 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 8

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the south.

Sample point G112. Clear
plastic is used to
collect any water that
may be accidentally
spilled during sampling.



DATE: November 20, 1991.

TIME: 3:05 PM

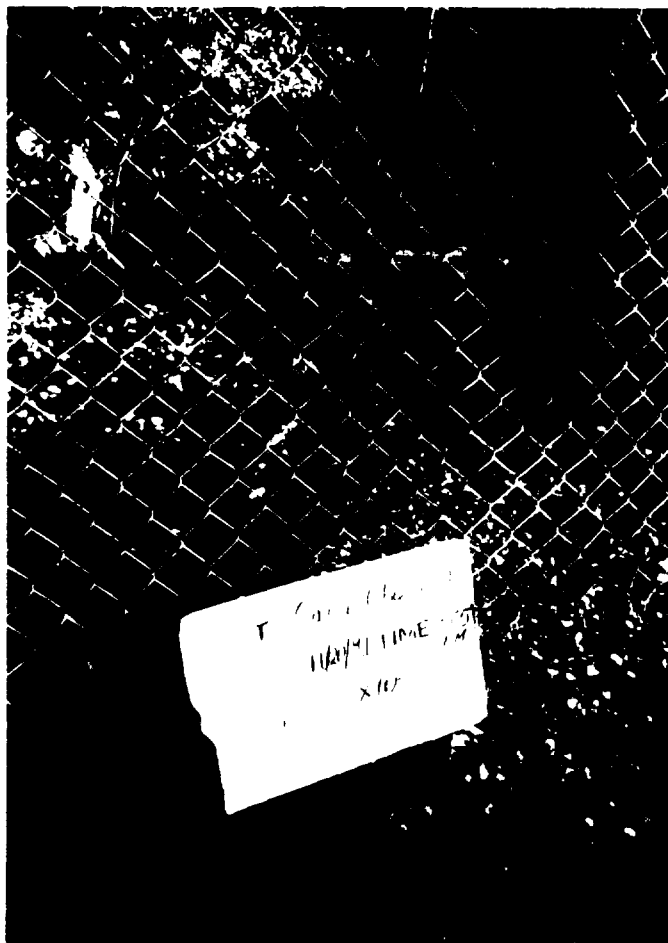
PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 9

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the east-southeast.

Sample point X105.
Sample was collected at
the southeastern corner
of the area used for
manufacturing at a depth
of 0 to 8 inches.



DATE: November 20, 1991

TIME: 3:05 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 10

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the north.

Sample X105. A portion of
the site drains toward
the southeast. The water
is diverted back to the
monitoring station before
it is allowed to enter
the south lagoon.



DATE: November 20, 1991

TIME: 3:30 PM

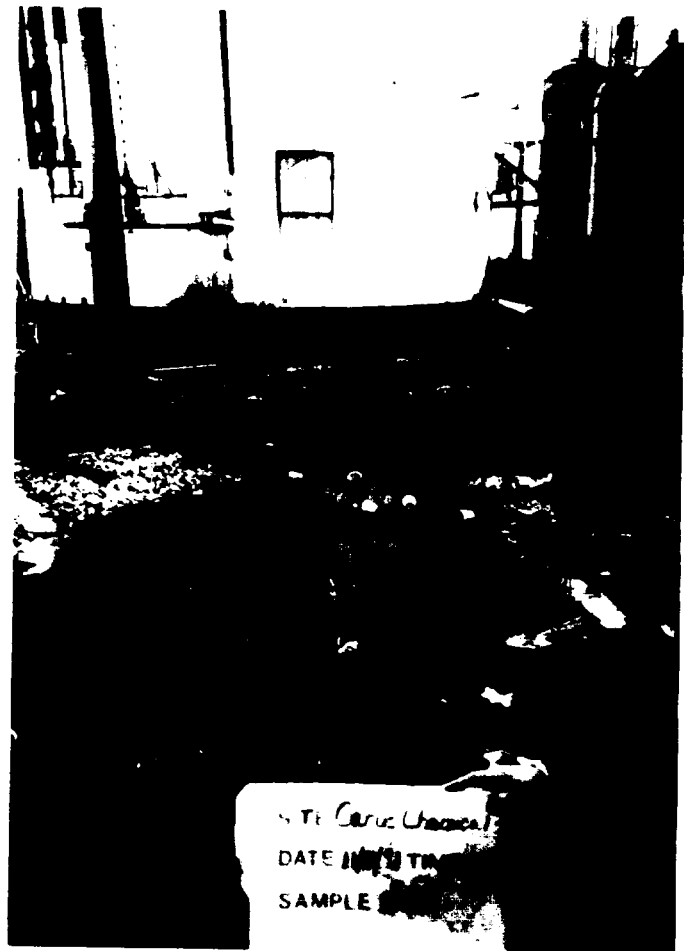
PHOTOGRAPH TAKEN BY:
KIM NIKA

PHOTO NUMBER 11

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the south.

Sample point X102. The
large tank in the back-
ground is an old acid
tank that is no longer
used. Sample was taken
from the surface of the
ground.



DATE: November 20, 1991

TIME: 3:30 PM

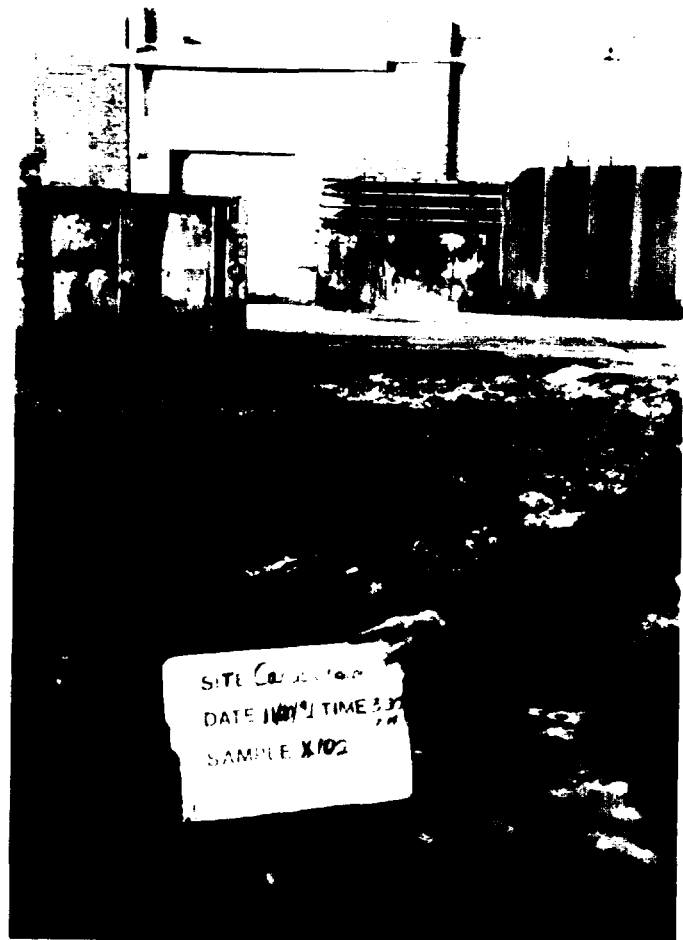
PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 12

LOCATION: Carus Chemical
Compant ILD 055477666

PICTURE TAKEN TOWARD
the north.

Sample point X102. Area
at one time was used to
store filter bags and
drums.



DATE: November 20, 1991

TIME: 3:50 PM

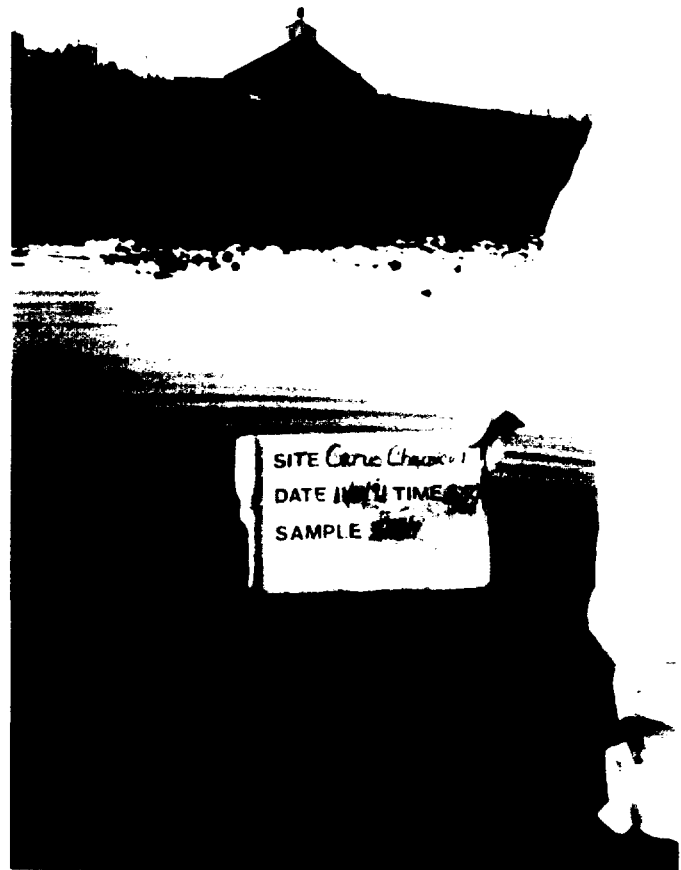
PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 13

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the north.

Sample X207. Sediment
sample collected from
the south end of the
Emergency Storage Site.
Sampling depth was 0 to 3
inches. Site slopes to
south.



DATE: November 20, 1991

TIME: 3:50 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 14

LOCATION: Carus Chemical
Company. ILD 005477666

PICTURE TAKEN TOWARD
the southeast.

Sample point X207. The
monitoring station is
located in the small
green building.



DATE: November 20, 1991

TIME: 4:20 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 15

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the east.

Sample point X101.
Background sample from
Hegeler Park. Sample was
collected at a depth of
0 to 4 inches.



DATE: November 20, 1991

TIME: 4:20 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 16

LOCATION: Carus Chemical
Company. ILD 005477666

PICTURE TAKEN TOWARD
the south.

Sample point X101
collected from Hageler
Park. Swimming pools are
in the background.



DATE: November 21, 1991

TIME: 9:00 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 17

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the north.

Sample point X204.
Sample collected in the
Little Vermilion River
downstream from where
the overflow from the
South Lagoon enters the
river. Water flowing
from the lagoon can be
seen behind the sampler.



DATE: November 21, 1991

TIME: 9:00 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 18

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the east.

Sample X204. The Little
Vermilion River is in
background. Sample was
collected at a depth of
0 to 8 inches.



DATE: November 21, 1991.

TIME: 9:30 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 19

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the south.

Sample point X205.
Sediment sample obtained
from the South Lagoon
near the overflow to the
Little Vermilion River.
Collected at a depth of
0 to 8 inches.



DATE: November 21, 1991.

TIME: 9:30 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 20

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the north.

Sample point X205.
South Lagoon is on the
left. Fog in the back-
ground is caused by the
water entering the pond
being warmer than the
surrounding air.



DATE: November 21, 1991

TIME: 9:55 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 21

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the east.

Sample point X206.
Sediment sample obtained
from a delta formed
where the water from the
plant enters the South
Lagoon. Collected at a
depth of 0 to 8 inches.



DATE: November 21, 1991

TIME: 9:55 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 22

LOCATION: Carus Chemical
Company. ILD 005477666

PICTURE TAKEN TOWARD
the south.

Sample point X206. Photo
taken away from sampling
point and shows portion
of the delta, which
extends back to the pipe
that passes through the
monitoring station.



DATE: November 21, 1991

TIME: 10:20 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 23

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the south.

Sample point X203.
Sediment sample from the
Little Vermilion River
at a point located down-
stream from runoff
ditches and an outfall
pipe. Collected at a
depth of 0 to 8 inches.



DATE: November 21, 1991

TIME: 10:20 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 24

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the north.

Sample point X203 on the
west bank of the Little
Vermilion River. Land at
the upper left corner
rises sharply.



DATE: November 21, 1991

TIME: 11:00 AM

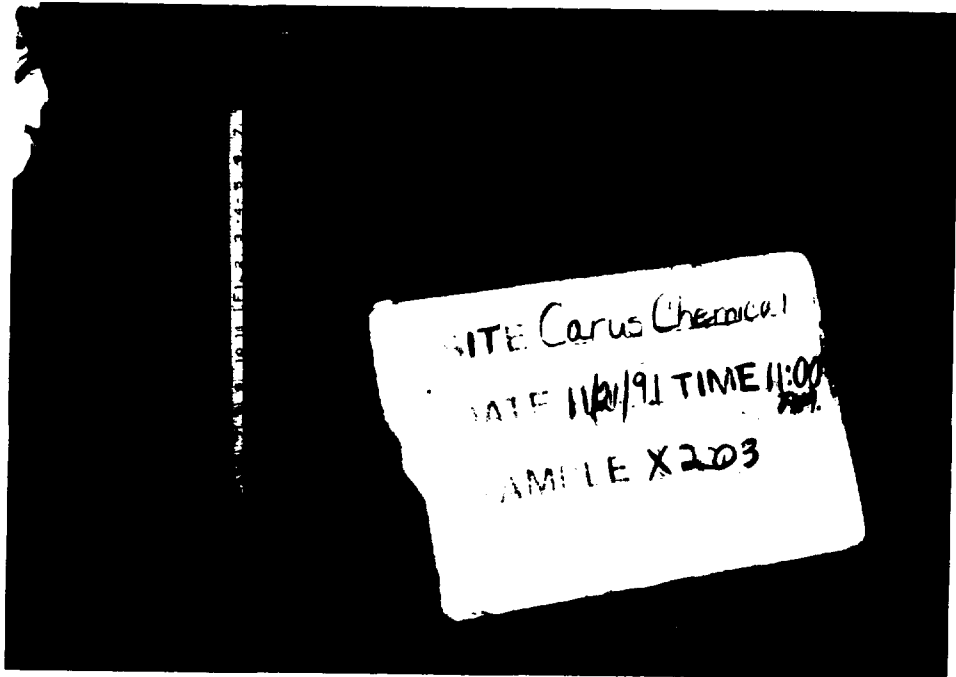
PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 25

LOCATION: Carus chemical
Company. ILD 005477666

PICTURE TAKEN TOWARD
the north.

Sample point X103. This
soil sample was inadvert-
ently labeled as sample
X203 on the photo board.
Collected at a depth of 0
to 6 inches.



DATE: November 21, 1991

TIME: 11:00 AM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 26

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the south.

Sample point X103. This
soil sample was inadvert-
ently labeled as X203.
The sample was collected
in an area where slag was
deposited from the zinc
processing facility
located to the north.



DATE: November 21, 1991

TIME: 11:25 AM

PHOTOGRAPH TAKEN BY:
Tim Murphy

PHOTO NUMBER 27

LOCATION: Carus Chemical
Company ILD 005477666

PICTURE TAKEN TOWARD
the west.

Sample point X104.
Soil sample collected 55
feet above the Little
Vermilion River. Fence at
top of the hill is the
boundary between Carus
and Zinco.



DATE: November 21, 1991

TIME: 11:25 AM

PHOTOGRAPH TAKEN BY:
Tim Murphy

PHOTO NUMBER 28

LOCATION: Carus Chemical
Company ILD 0055477666

PICTURE TAKEN TOWARD
the east.

Sample point X104. The
distance to the river is
150 feet from where the
photo was taken. Sample
was collected at a depth
of 0 to 6 inches.



DATE: November 21, 1991

TIME: 12:20 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 29

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the south.

Sample point X202.
Sediment sample collected
below a sewer outfall
constructed by the city
of LaSalle. Collected at
a depth of 0 to 4 inches.



DATE: November 21, 1991

TIME: 12:20 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 30

LOCATION: Carus Chemical
Company. ILD 005477666

PICTURE TAKEN TOWARD
the north.

Sample X202. Sewer
outfall is located to the
upper left.



DATE: November 21, 1991

TIME: 12:36 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 31

LOCATION: Carus Chemical
Company. ILD 005477666

PICTURE TAKEN TOWARD
the south.

Sediment sample X201
was collected from the
Little Vermilion River
at a point where water
from an old Zinco sewer
enters the river. The
sample was collected at
a depth of 0 to 7 inches.



DATE: November 21, 1991

TIME: 12:30 PM

PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER 32

LOCATION: Carus Chemical
Company. ILD 005477666

PICTURE TAKEN TOWARD
the west.

Sewer and stream on Zinco
property that flows into
the Little Vermilion
River where sample X201
was taken. The water was
clear and had a patch of
algae growing in it.



DATE: November 21, 1991

TIME: 12:55 PM

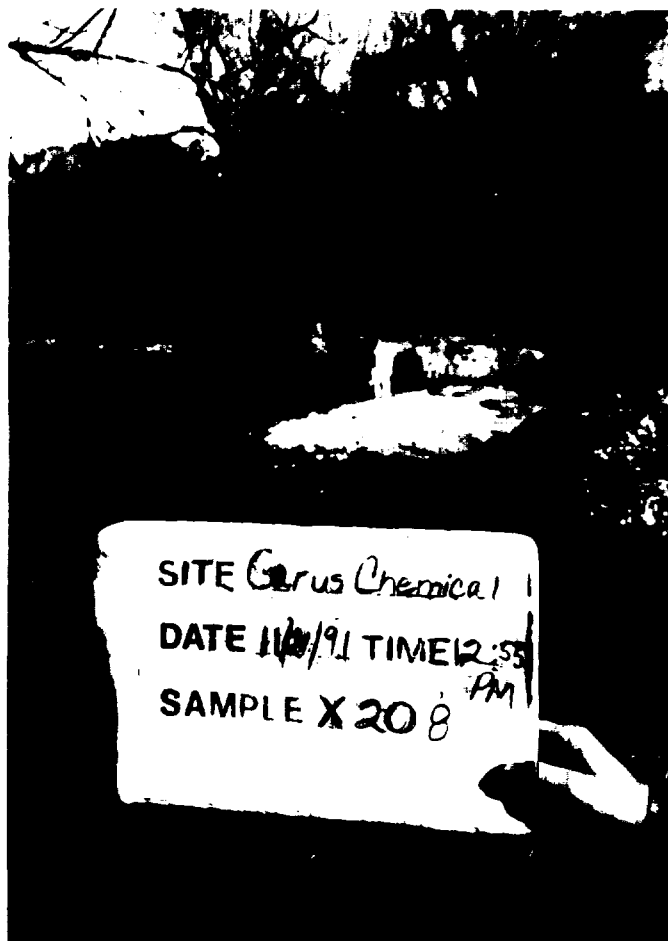
PHOTOGRAPH TAKEN BY:
Kim Nika

PHOTO NUMBER: 33

LOCATION: Carus Chemical
Company. ILD 055477666

PICTURE TAKEN TOWARD
the east-northeast.

Sediment sample X208 was
collected on the east side
of the Little Vermilion
River upstream from where
a drainage channel from a
quarry enters the river.
The building at the top of
the photo is on quarry
property.



DATE: _____

TIME: _____

PHOTOGRAPH TAKEN BY:

PHOTO NUMBER: _____

LOCATION: _____

PICTURE TAKEN TOWARD:
the

